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Keywords: Post stroke spasticity; Goal setting; Goal attainment
Topic.– New techniques of rehabilitation and assessment (TBC).
Objectives.– To describe rehabilitation goals and attainment of upper (UL) and lower limb (LL) function in focal PSS patients, using goal attainment scaling.
Methods.– Subjects were randomised to Botox® (BoNT-A) + standard care (SC) or placebo + SC for up to 2 treatment cycles, followed by an open-label phase up to a total of 52 weeks. Eligible patients were BoNT-A naïve, demonstrated preserved function in the limb to be treated, and were considered likely to benefit from the intervention. For each patient, a principal active functional goal was defined as well as a secondary active or passive goal and the principal goal attainment was measured at the end of the randomised period.
Results.– The intent-to-treat population comprised 273 patients recruited in Canada, Germany, Sweden and the UK (59% male; mean age: 61.5 years; median time since stroke: 22.8 months). In total, 165 patients had a principal or secondary active goal concerning UL function (respectively 116 and 49), 222 patients had either a principal or secondary active goal concerning LL function (respectively 157 and 65), and 158 patients had a secondary passive goal.
For patients with an active goal pertained to UL function, the main goal categories were: ability to grasp and hold objects with either gross or fine movements (31.5%), feeding (23.6%), dressing (16.4%), and improved upper limb range of movement (12.7%). For those patients whose principal active goal pertained to LL function, most were associated with walking/mobility (89.2%) including improvements in speed, distance, gait and ability to climb stairs.
Active goals pertaining to UL were achieved by 39.5% of patients receiving BoNT-A + SC and 30.7% of patients receiving placebo + SC and active LL goals were achieved by 41.9% of patients receiving BoNT-A + SC and 45.1% of patients receiving placebo + SC. Secondary passive goals were achieved by 60.6% of the patients receiving BoNT-A + SC and 38.6% of patients receiving placebo + SC.
Conclusion.– More patients treated with Botox® + SC achieved their UL active goals and passive goals compared to placebo + SC.

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Highly paretic patients within four to six weeks after stroke: An early botulinum toxin A treatment may prevent a disabling finger flexor spasticity six months later

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Keywords: Spasticity; Hemiparesis; Stroke; Botulinum toxin
Objective.– The study asked whether an early BTX-A injection in sub-acute stroke patients may prevent a disabling finger flexor spasticity six months later.
Design.– A single-blind, randomized pilot study.
Setting.– In-patient rehabilitation centre.
Subjects.– Eighteen stroke patients, interval 4–6 weeks, non-functional upper limb (UL), Fugl-Meyer UL score (FM, 0–66) < 20, beginning finger flexor spasticity, randomly allocated to group A or B.
Interventions.– In A-patients 150 units BTX-A (Xeomin) injected into the deep and superficial finger (100 units) and wrist flexors (50 units), no injection in B-patients. Comprehensive rehabilitation in both groups.
Main measures.– Primary variable was the modified Ashworth score (AS, 0–5) of the finger flexors, secondary the whole UL tonus with the REPAS, the UL motor control with the FM, and a disability scale, blindly assessed at T0 (begin), T1 (4 weeks) and T6 (6 months).
Results.– Homogeneous groups at T0. Significantly less finger flexor tonus in the BTX-A group at T1 and T6, the mean (SD) AS scores in group A (B) were: 1.7 ± 0.5, (1.6 ± 0.5) at T0; 0.4 ± 0.5 (1.9 ± 0.7) at T1; and 1.4 ± 0.7 (2,4 ± 0.9) passive nail trimming, was less in group A at T1 and T6.
Conclusions.– The pilot character prohibits any conclusions, but the results indicate a prohibitive effect of an early BTX-A injection on finger flexor spasticity six months later. By minimizing involuntary muscle activity, the fingers were held in a less fixed position, which may have hindered contractures, usually rapidly developing.

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Validation study of subjective spasticity questionnaire

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Objective.– To test the validity and reliability of a subjective questionnaire for evaluation of spasticity during daytime, sleep and activities of daily living (ADL).
Subjects and methods.– Our sample consisted of 50 subjects (30 male) with mean age 48.2 ± 15.3 years (ranging from 21 to 84 years). The questionnaire was constructed based on the functional classification of disability according to WHO. (2001) and it is self-administered. It consists of 12 domains (Likert scale) for evaluation of the effect of pain, involuntary movement and spasticity on ADL such sleep quality, hygiene, routine activities, social life, driving, orthosis wear and gait. Reliability was tested via Cronbach's α coefficient. The item discriminant validity test was performed according to the severity of complaints based on clinical evaluation of spasticity via modified Asworth scale. The construct validity was tested via item-scale correlations.
Results.– More than half of the patients reported that spasticity, accompanying pain and involuntary movements were getting more intense during night. Medium to severe spasticity, accompanying pain and involuntary movements were reported by 80.4%, 52.9% and 60% of the subjects, respectively. Most of the complaints were noted during walking. Internal consistency was measured by Cronbach's α, which was found 0.96 for questions concerning pain, 0.98 for questions concerning involuntary movements and 0.97 for spasticity. The more severe the clinical grade of spasticity, the more troublesome complaints were reported by the patients in a number of questions. The Pearson correlation coefficients ranged mostly from medium ($r > 0.4$) to high ($r > 0.6$), indicating medium to high reproducible scales, respectively.
Conclusion.– The questionnaire is a promising, new instrument for evaluation of the subjective feeling of spasticity during night and ADL. It comes up forward to fill in the gap in the field of spasticity and it is useful for recording the effectiveness of spasticity treatment outcome and rehabilitation program.

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Botulinum toxin for the treatment of spastic equinovarus foot in adults: Effect on gait parameters. Comparative randomized double-blind trial versus placebo

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Stroke is the leading cause of disability for adults in France. After stroke, equinovarus foot is the main cause of gait abnormalities. The efficiency of botulinum toxin in decreasing spasticity has been demonstrated but the effects on gait parameters (gait velocity…) are still conflicting. The purpose of this study was to evaluate the effects of an injection of botulinum toxin type A, compared with placebo, on gait parameters.
Methods.– This was a multicenter, randomised, double-blind, versus placebo study. To be included, patients had to suffer from a hemiplegia with an equinovarus foot due to stroke. A medical examination (physical examination, gait analysis using a GAITRite® system…) was performed before and 4 to 6 weeks after the injection.
Results.– We included 49 patients, randomised in two groups: treatment with botulinum toxin type A ($n = 23$) and placebo ($n = 26$). No significant difference